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ABSTRACT

Past and present policies, procedures, guidelines, and rationale developed by various state agencies responsible for physical facilities development in Illinois were examined with the hope of guiding future community college planners in the complex problem of translating educational programs into physical facility requirements. Information gathered dated back to 1965 and was obtained from various forms, charts, documents, letters, and memoranda available in the Illinois Community College Board office. Personal interviews with present and former staff members of various state agencies supplemented the data. Examination of the role of government agencies, a comparison of the building program to those of other states, and disucssion of revisions in priorities, costs, and guidelines are provided. Allowances for inflation and the differences between use of state and of local funds for building are also discussed. It is recommended that decisions concerning determination of efficiency standards, amount of space per full-time equivalent day student, and choice of type of facilities be made on a local level. A bibliography is appended. (MJB)

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PHYSICAL FACILITIES IN ILLINOIS PUBLIC COMMUNITY COLLEGES: A STUDY OF RATIONALE AND CRITERIA IN DECISION MAKING

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Background and Need

Since the time of inception of the public community college system in Illinois in 1965 thirty-eight districts with forty-seven campuses have been established. Public Act 77-1822, adopted in 1973, mandated that all territory within the state be assigned to some community college district by August 1, 1974. The Illinois Community College Board accomplished this task on June 21, 1974, when it adopted a map creating two new districts and annexing the remaining territory to existing districts. Some of the newly annexed territories and one of the new districts filed petitions for withdrawal, but according to the Community College Bulletin (June, 1974, pp. 3-4) over ninety-five percent of the territory in the state is presently in a community college district.

Although seven campuses have no permanent facilities and a number of others have limited facilities, substantial progress has been made toward the construction of permanent campuses during the ten years since the formation of the system. During this period various policies, procedures, and guidelines were developed by state agencies to evaluate facility requests presented by local districts. With new annexations and increasing enrollments, accommodations for present and future student populations will be necessary along with a considerable commitment of state and local funds to finance the facilities. In order to justify these expenditures, past and present policies, procedures, guidelines, and rationale developed by various state agencies responsible for physical facilities development were examined in this study with the hope of guiding future community college planners in the complex problem of translating educational programs into physical facility requirements.

Statement of the Problem

The need to plan in an orderly way for physical facility development in an expanded Illinois public community college system requires an analysis of past practices by various agencies responsible for capital development and leads to the following problem statement:

> To discover rationale used by various agencies in Illinois responsible for physical facilities development of public community colleges in formulating policies, procedures, guidelines, and priorities and to discover if these are appropriate for future planning, development, and decision making.

Limitations of the Study

The data contained in this study dated back to 1965 and were obtained from various forms, charts, documents, letters, and memoranda available in the Illinois Community College Board office. Most of the data were verified by board staff by returning contradictory and incomplete data to colleges for verification and correction.

Much of the historical data were gathered through personal interviews with present and former staff members of various state agencies. The author relied heavily for data upon the accuracy of the written records of the Illinois Community College Board and the memories of those interviewed.

Review of Related Literature

Physical facilities for a community college serve as a resource in the pursuit of its objectives. The Illinois Public Community College Act (1965, p. 1466) directed that the objectives of community colleges be manifest through instructional programs including courses in liberal arts and sciences, general education, adult education, and technical and semi-technical occupational fields.

Dahnke (1970, p. 5) suggested that if resources are to equal the objectives of community colleges, careful long range planning and imaginative day-to-day management of physical resources are necessary.

During the post World War II period serious consideration to utilization and planning for new space to accommodate the burgeoning enrollments anticipated in colleges and universities began to be a subject of concern to the American Association of Collegiate Registrars and Admissions Officers. Two studies by Thompson (1953, 1954) were sponsored by AACRAO and were a major factor in stimulating action in colleges and universities to prepare for enrollments projected in the years ahead.

One of the preliminary reports searching for better methods of determining facilities needs was prepared by Smith (1954). This study provided the basis for planning criteria presented in the Restudy of the Needs of California in Higher Education (1955).

AACRAO also sponsored a study by Russel and Doi (1957) dealing with improved management of available facilities. Middlebrook (1958), Doi and Scott (1960), and Jamerich (1962) completed further studies on utilization and projection techniques. Each explored usage according to type of facility, program, and level of control, although none dealt specifically with community colleges.

Specific planning of community colleges was explored in an unnumbered insert entitled "Planning the Community College" in the October 1967 edition of College and University Business. No planning criterions were suggested, however.

The development of planning standards continued with the work of Bareither and Schillinger (1968) who developed the "numeric method" with the philosophy that facility requirements may be categorized into "building blocks" for which there exists an index that will generate space requirements. The requirements depend on the number of full-time equivalent students, the level of students, the fields of study, the institutional philosophy concerning scheduling patterns, and the size of the library. The index, a space factor, measures the quantity of space in square feet per student hour that should be available at any time for educational purposes.

Similar techniques were developed by Dahnke, Jones, Mason, and Romney (1971), Ashley (1970), and Keene (1972). Most recent additions to the literature suggest two thrusts: (1) more effective utilization of existing facilities and (2) planning for future development based on type of space, subject matter to be housed in the new space, and area per weekly student hour projected for the space. Institutional policies for space factors are developed generally through prior examination of program statements.

Design of Research

Historical and descriptive approaches were employed to discover the rationale used in policy, procedure, guideline, and priority development. In gathering data for this study the Executive Secretary and two associate secretaries of the Illinois Community College Board were contacted for permission to use various surveys, planning documents, position papers, and memoranda developed by the Illinois Community College Board and staff. The data obtained were determined to be "public property" and therefore were made accessible.

This data combined with personal interviews with present and former staff members of various agencies were used to determine the stated philosophy and purposes of the system, preliminary planning for construction, the role of governmental agencies, the setting of priorities, cost analysis data, and the present status of building programs. Past policies, procedures, and guidelines were explored and the rationale for development of these was also determined.

Early Procedures and Requirements

As background for the study, the statement, "The Philosophy and Purposes for the System of Public Community Colleges of Illinois," adopted in 1974, was examined. The document revealed the traditionally accepted five functions of community colleges, namely: career education curricula, pre-transfer curricula, general studies, public service, and student services.

In recognition of the need to translate programs into physical facilities and equipment, the Illinois Public Community College Act (1965, p. 1488) gives local Boards of Trustees the right to purchase or lease one or more sites for college purposes with State Board approval and to build, buy, or lease suitable buildings on those sites. When the district desires to participate in a building program, it must make application to the State Board for approval of the project. The State Board is required in the Act (1965, p. 1495) to provide priorities regulated by objective criteria with special consideration for expansion of enrollment capacity and effective utilization of existing facilities.

Upon approval by the Illinois Community College Board, and with subsequent endorsement by the Illinois Board of Higher Education, the legislature

and the Governor appropriate funds of up to 75 percent of the cost to finance a building project. Local districts, in turn, may finance 25 percent or more of the cost through the issuance of bonds or transfer of real property. While federal funding is allowed, the total state and federal contribution cannot exceed seventy-five percent.

In early 1966, staff members of the Illinois Community College Board developed application forms and criteria based on weighted educational need and financial efficiency for the distribution of the initial capital allocation of $20,000,000 to all the colleges that applied. Educational need criteria included enrollment projections plus the number of courses planned for the facility. Financial efficiency criteria included net to gross square foot ratios, costs per square foot, and costs per full-time equivalent student. Although these criteria were presented to the Illinois Community College Board, the initial allocation of state dollars was distributed to the six colleges that applied solely on the basis of projected full-time equivalent enrollment for a four year period, each receiving a weighted fraction of the available funds. The funds allocated were less than half of the amounts requested.

Subsequent to the initial allocation of funds for building projects, staff members of the Illinois Community College Board and the Illinois Board of Higher Education developed the original policies, procedures, and guidelines for review of capital requests. Guidelines originally implemented in California, New York, and Florida, experiences with the initial six applications, and documents produced by the consulting engineering firm of McKee, Berger, and Mansueto, Inc., guided the drafting process. The resulting document, Policies

and Procedures for Review of Capital Funds Requests for Public Community Colleges, was approved by both the Illinois Community College Board and the Illinois Board of Higher Education.

Exploration for the rationale used in the development of the document revealed:

1. Enrollment projections, land purchase arrangements, appraisal procedures, and acreage allowances of 100 acres for the first 1500 FTE day students, 150 acres for 1500 to 3000 FTE day students, and 200 acres for 3000 or more FTE day students were similar to those used in California, New York, and Florida.
2. Minimum net assignable square footage to gross square footage ratios of 0.65 agreed with experiences at the first six colleges and recommendations from McKee, Berger, and Mansueto, Inc.
3. Square footage allowances of 110 per student for the first 1500, 100 per student for the next 1500, and 90 per student over 3000 were based on FTE day students assuming that maximum enrollments would occur in the daytime and the same facilities could be used in the evening.
4. Maximum dollar allowances of $30 per square foot to the five foot line outside the building excluding architects fees, legal costs, and fixed equipment were arrived at through experience with the first six projects and were a compromise between statewide experience figures for elementary and high schools of $16 per square foot and university research centers of $70 per square foot.

Role of Governmental Agencies

Study of the Capital Development Board Act and the Illinois Building Authority Act plus publications by these boards revealed the contrast in powers and duties ascribed to the agencies created by these acts. Following appropriation of funds, the Capital Development Board reviews schematic and design development plans. Working drawings and final drawings are submitted to the board after review. The Capital Development Board also supervises bidding, construction, and final acceptance of the project.

The Capital Development Board's predecessor prior to 1972, the Illinois Building Authority, had little review power since most projects were at the working drawing stage before they ever reached the Authority. The only powers granted to the Illinois Building Authority were in the areas of budgeting, approving change orders for construction, and determining what was fundable. The Capital Development Board was established due to a need for greater coordination and efficiency in funding, design, management, and construction.

An interim effort organized by Governor Ogilvie to increase efficiency and insure appropriateness of design resulted in the formation of the Capital Projects Review Task Force in 1971. The Governor had periodically frozen and released construction funds during a difficult money market. The five-man committee, according to reports from the Governor's office, proved successful in conserving state funds of over seventy million dollars during a one and one-half year period.

During its four year existence the Capital Development Board has adopted an elaborate set of procedures. Various critics from all sectors of education

have expressed concern over delays and increased costs experienced in dealing with procedures developed by the board and staff.

Priorities, Costs, and Guideline Revisions

While local districts were initially allowed considerable discretion in deciding the functions of space justified by enrollment projections, growing demands for capital funds pointed to the need to develop a system of priorities. In 1971 the Illinois Community College Board adopted priorities for construction in the following order: (1) basic college facilities; (2) occupational technical laboratories and shops to meet local needs; (3) physical education and fitness rooms for courses in health and physical education; (4) permanent learning resources center; (5) fine arts center; (6) permanent student center; (7) theatre or auditorium; (8) gymnasium, swimming pool, or other recreational facilities. In addition to these priorities, older districts without recent financing, districts with increasing enrollments, and districts building instructional, especially occupational space, were given preference.

Construction cost escalation problems were recognized as early as 1968. The firm of McKee, Berger, and Mansueto, Inc. was engaged on various occasions to study cost increases and regional indices, but no changes in allowable dollars per square foot resulted. The Illinois Community College Board did, however, allow districts to proceed with construction projects exceeding guidelines provided the local districts used their own funds.

In early 1974 the Illinois Community College Board appointed an advisory committee to consider financing and changes in construction guidelines. They recommended sixteen changes which were subsequently accepted by the board.

These changes included recommendations in the areas of financing; cost computation and escalation; funding for interim facilities, movable equipment, planning, and parking lots; efficiency and space factors; allocation formulas; reimbursements; policies and procedures; and insurance of facilities. Rationale for these recommendations was explored through study of the committee's minutes.

Status of Building Programs and Comparisons to Other States

The functions of facilities built prior to the Fall of 1975 in the 28 colleges in existence since 1967 were examined. These districts had 35 campuses. Four campuses had no permanent facilities while only seven campuses had a theatre. Calculations were also completed on ratios of Fall 1975 gross square feet per Fall 1974 full-time equivalent student and per Fall 1974 full-time equivalent day student as shown in Table I. Excluding the campuses with no facilities, the GSF/FTE ranged from a high of 245.3 to a low of 54.8 with a mean of 126.6 and the GSF/Day FTE ranged from a high of 319.7 to a low of 80.3 with a mean of 189.6. Calculation of the ratio of total NASF/GSF for the 31 campuses with facilities showed 21 with efficiencies below a newly accepted guideline ratio of 0.70 as shown in Table 2 (the previous guideline was 0.65).

Conclusions and Recommendations

The following conclusions and recommendations were made:

1. Concern has arisen over the policies and procedures issued by the Capital Development Board. Claims by critics of costly delays, duplication of technical services, and bureaucratic encumbrances were countered by defenders who cited savings due to lower costs. Since districts were unsure of the policies, procedures, and cost

TABLE 1

Permanent Gross Square Feet Expected Available in Fall 1975
Compared to Fall 1974 FTE and Day FTE (30 October 1974)

Dist. No.	Dist/Campus	GSF/75	FTE Fall'74	FTE Day Fall'74	GSF/ FTE	GSF/Day FTE
501	Kaskaskia	157,756	1,263	906	120.2	174.1
502	Dupage	427,250	7,108	4,636	60.1	92.2
503	Black Hawk - Quad City	465,164	3,289	2,554	141.4	182.1
	- Kewanee	---	466	391	---	---
504	Triton	469,113	8,173	5,307	57.4	88.4
505	Parkland	410,470	3,262	2,702	125.8	151.9
506	Sauk Valley	319,828	1,304	1,021	245.3	313.2
507	Danville	115,285	1,765	1,435	65.3	80.3
508	Chicago - Northeast	430,000	2,238	1,345	192.1	319.7
	- Kennedy King	715,000	5,975	N/A	119.7	N/A
	- Loop	---	4,242	N/A	---	---
	- Malcolm X	521,000	3,414	1,881	152.6	277.0
	- Olive Harvey	---	3,104	N/A	---	---
	- Southwest	---	3,058	N/A	---	---
	- Wilbur Wright	244,200	5,702	N/A	25.4	N/A
509	Elgin	204,302	1,959	1,418	104.3	144.1
510	Thornton	503,724	3,473	2,180	145.0	231.1
511	Rock Valley	437,240	3,027	2,225	144.4	196.5
512	Wm. R. Harper	446,192	5,772	4,367	78.0	102.2
513	Illinois Valley	262,300	1,922	1,534	136.5	171.0
514	Illinois Central	458,315	4,878	3,261	93.9	140.5
515	Prairie State	269,356	2,134	1,469	126.2	183.4
516	Waubonsee	288,340	2,143	1,396	134.5	206.5
517	Lake Land	179,307	2,173	1,583	82.5	113.3
518	Carl Sandburg	174,026	944	569	184.3	305.8
519	Highland	202,593	907	700	223.4	289.4
520	Kankakee	170,292	1,349	686	126.1	248.2
521	Rend Lake	176,536	922	740	191.5	238.6
522	Belleville	228,266	3,389	2,507	54.8	91.1
523	Kishwaukee	120,708	1,223	856	98.7	141.0
524	Moraine Valley	388,790	3,754	2,434	103.6	159.7
525	Joliet	389,063	3,295	2,294	118.1	169.6
526	Lincoln Land	283,457	2,616	1,650	108.4	171.8
527	Morton	236,292	1,207	1,104	195.8	214.0
528	McHenry	145,800	863	497	168.9	293.4
	(Average of colleges with facilities)				126.6	189.3

TABLE 2

NASF/GSF Expected Fall 1975

(Excludes those with no facilities)

District No.	District/Campus	Total NASF	Total GSF	NASF/GSF
501	Kaskaskia	109982	151756	.72
502	Dupage	266718	427250	.62
503	Black Hawk - Kewanee	362959	465164	.78
504	Triton	355276	469113	.76
505	Parkland	270809	410470	.66
506	Sauk Valley	169925	319828	.53
507	Danville	87288	115285	.76
508	Chicago - Northeast	290300	430000	.76
	- Kennedy King	479050	715000	.67
	- Malcolm X	354474	521000	.68
	- Wilbur Wright	144757	244200	.59
509	Elgin	126068	204302	.62
510	Thornton	310603	503724	.62
511	Rock Valley	270167	437240	.62
512	William Rainey Harper	287997	446192	.65
513	Illinois Valley	176519	262300	.68
514	Illinois Central	309564	458315	.68
515	Prairie State	179173	269356	.67
516	Waubonsee	202047	288340	.70
517	Lake Land	137966	179307	.77
518	Carl Sandburg	119273	174026	.68
519	Highland	159234	202593	.78
520	Kankakee	109048	170292	.64
521	Rend Lake	117269	176536	.66
522	Belleville	137442	213266	.64
523	Kishwaukee	76702	120708	.64
524	Moraine Valley	254578	388790	.66
525	Joliet	281114	389063	.72
526	Lincoln Land	185126	283457	.65
527	Morton	164183	236292	.69
528	McHenry	110785	145800	.76
			Average	.68

computations developed by the board, it was recommended that these be published and distributed to the colleges for ready reference. The legislature should also undertake a study of the cost savings realized by the board.

2. Present applications for construction funds do not address the topic of utilization of existing facilities although the Illinois Public Community College Act (1965, p. 1495) requires the state board to provide priorities regulated by objective criteria based on effective utilization. All new building requests should be preceded by utilization studies.
3. The Illinois Community College Board has adhered to rigid standards based on a fixed number of square feet per full-time equivalent day student with additional special allowances for occupational laboratories. In order to recognize differences among institutions and in requirements for space, needs should be based on space factors appropriate to the type of space, instructional methodology, and subject matter. A space factor can be obtained by dividing the square feet per station by the hours per week the room is to be used and the percent of time the station is occupied when the room is in use as described by Bareither and Schillinger (1968, p. 1-2). For example, if the goals for usage are 15 square feet per station and room utilization of 30 hours per week with station occupancy of 60%, the index is 0.833.
4. Although the new efficiency guideline adopted by the Illinois Community College Board is 0.70, 21 of 31 campuses studied fell below

that guideline. Efficiency standards should be appropriate to the facility rather than setting some arbitrary standard for all space.

5. Although numerous cost studies were completed since 1966, the Illinois Community College Board failed until recently to change the cost guidelines developed in 1967. Cost figures should continue to recognize inflationary trends and cost indices for different areas of the State.

6. Significant implications for future state financing have resulted from the Illinois Community College Board policy of allowing districts to proceed with construction utilizing all local funds with the hope for future reimbursement. The State of Illinois should examine projects submitted in the past using only local funds in order to determine future financial needs and obligations to the State.

7. Allowing districts to finance local contributions through transfer of real property or past credits on local projects not only decreases the local district's cash contribution but also decreases the total funds available for the new project. For example, if the total cost of a project is four million dollars, the local district needs one million dollars cash as its share. If the district submits $500,000 as a credit, this leaves $3.5 million as the total cash available for the project.

8. Although the Illinois Community College Board has the right to set priorities for the type of facilities to be built, local districts are in a better position to determine local needs. Therefore, local districts

should be allowed to set their own priorities provided they have enrollments in programs to justify the new space.

This study can be important to both Illinois in determining needs for changes in guidelines and to other states contemplating the establishment of a state system of community colleges. The experiences of Illinois show a need for care in setting up local districts, the need to develop space factors for construction, the need for effective utilization, the need for enrollment projection methodology, and the need to recognize inflationary cost data.

REFERENCES

Bareither, H. D. and Schillinger, J. L. University space planning. Urbana: University of Illinois Press, 1968.

Board of Higher Education Act. Springfield, IL. Illinois State Bar Association, 1961

California State Department of Education. A restudy of the needs of California in higher education. Sacramento: Author, 1955.

Capital Development Board Act. Springfield, Ill.: Illinois State Bar Association, 1972.

Dahnke, H. L. Reporting, evaluating, and projecting facilities requirements of public community colleges in Michigan. Lansing: Michigan Department of Education, 1970.

Dahnke, H. L., Jones, D. P., Mason, T. R., and Romney, L. C. Higher education facilities planning and management manuals. Boulder, Colo.: Western Interstate Commission for Higher Education, 1971.

Doi, J. I. and Scott, K. L. Normative data on the utilization of instructional space in colleges and universities. Washington, D. C.: American Association of Collegiate Registrars and Admissions Officers, 1960.

Illinois Building Authority Act. Springfield, Ill.: Illinois State Bar Association, 1961.

Illinois Community College Board. Policies, procedures, guidelines, rules, and regulations for the administration and operation of public community colleges. Springfield, Ill.: Author, 1973

Illinois Community College Board. The philosophy and purposes for the system of public community colleges. Springfield, Ill.: Author, 1974.

Illinois Public Community College Act. (Revised Statutes). Springfield, Ill.: Illinois State Bar Association, 1965.

Jamerich, J. X. To build or not to build, a report on the utilization and planning of instructional facilities in small colleges. New York: Educational Facilities Laboratories, 1962.

Keene, T. W. A use efficiency model for planning instructional space requirements. College and University, Spring, 1972, 176-183.

Middlebrook, W. T. How to estimate the building needs of a college or university. Minneapolis: The University of Minnesota Press, 1958.

Russell, J. D. and Doi, J. I. Manual for studies of space utilization in colleges and universities. Athens, Ohio: Ohio University and the American Association of Collegiate Registrars and Admissions Officers, 1957.

Smith, D. E. College and university space requirements. American School and University, 1954-55, 287-296.

Thompson, R., College age population trends 1940-1970. Washington, D.C.: American Association of Collegiate Registrars and Admissions Officers, 1953.

Thompson, R., The impending tidal wave of students. Washington, D. C.: American Association of Collegiate Registrars and Admissions Officers, 1954.

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